

U.S.S.N. 10/731,983

Claim Amendments

Please amend claims 1-4, 9, 13, 14, 17, and 18 as follows:

Please cancel claims 5-8, 10, 11, 12, 16 and 20 as follows:

Please add new claims 21-29 as follows:

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Listing of Claims

1. (currently amended) A structure for reinforcing a bonding pad following a bonding operation, said bonding pad connected to at least one underlying conductive layer on a substrate, comprising:

at least one anchor structure disposed horizontally adjacent to said bonding pad and at least one conductive layer underlying said bonding pad, said at least one anchor structure for connection interconnected to the bonding pad and to the at least one underlying conductive layer;

wherein said bonding pad and said anchor structure are horizontally adjacently surrounded by a dielectric layer.

2. (currently amended) The structure of claim 1 wherein said at least one anchor structure further comprises a bonding pad anchor pad for connection interconnected to the bonding pad by a first conductive bridge, [[a]] at least one conductive layer anchor pad underlying said bonding pad anchor pad for and connected to the at least one conductive layer by a second conductive bridge [[,]]; and

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wherein at least one anchor via connecting said bonding pad anchor pad to said conductive layer anchor pad.

3. (currently amended) The structure of claim 1 wherein said at least one anchor structure comprises a plurality of anchor structures each anchor structure disposed horizontally adjacent and interconnected to said bonding pad and said at least one underlying conductive layer, respectively.

4. (currently amended) The structure of claim 3 wherein said plurality of anchor structures each comprises a bonding pad anchor pad ~~for connection~~ interconnected to the bonding pad by a first conductive bridge, a conductive layer anchor pad ~~for connection~~ interconnected to the conductive layer by a second conductive bridge, and at least one anchor via connecting said bonding pad anchor pad to said conductive layer anchor pad.

Claims 5-8 cancelled

9. (currently amended) The structure of claim 1 wherein said at least one anchor structure lies outside an imaginary crack zone circle comprising said dielectric layer circumscribing said

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bonding pad.

10. cancelled

11. cancelled

12. cancelled

13. (currently amended) A structure for reinforcing a bonding pad following a bonding operation, said bonding pad connected to a plurality of underlying conductive layer[[s]] levels through a plurality of insulative layers ~~deposited~~ disposed on a substrate, comprising:

at least one multi-level anchor structure disposed horizontally adjacent and interconnected for connection to the bonding pad and to the conductive layers, said anchor structure and conductive layers interconnected by a conductor layer bridge extending between the anchor structure and a respective conductor layer at a respective level, respectively;

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wherein the anchor structure at the uppermost level of said at least one multi-level anchor structure comprises a bonding pad anchor pad, said bonding pad anchor pad connected to said bonding pad by a bonding pad bridge extending between said bonding pad anchor pad and said bonding pad; and,

wherein said bonding pad, said bonding pad anchor pad, and said bonding pad bridge are horizontally adjacently surrounded by an uppermost insulative layer.

14. (currently amended) The structure of claim 13 wherein said at least one multi-level anchor structure comprises ~~a bonding pad anchor pad for connection to the bonding pad,~~ a plurality of conductive layer anchor pads, each conductive layer anchor pad horizontally adjacently disposed at a respective level for connection to the a respective conductive layer[[s]] respectively;

wherein at least one first anchor via connectsing said bonding pad anchor pad to said to a first underlying conductive layer anchor pad[[s]], and at least one second anchor via connectsing each of said conductive layer anchor pads to a[[n]] second underlying adjacent one of said conductive layer anchor

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pads, respectively.

15. (original) The structure of claim 13 wherein said at least one anchor structure comprises a plurality of anchor structures.

16. Cancelled

17. (currently amended) The structure of claim 13 wherein said at least one anchor structure lies outside an imaginary crack zone circle comprising said uppermost insulative layer circumscribing said bonding pad.

18. (currently amended) A method of reinforcing a bonding pad following a bonding operation, said bonding pad connected through conductive vias to a plurality of underlying conductive layers deposited on a substrate, comprising the step of:

~~connecting at least one multi-level anchor structure to the bonding pad and to the conductive layers, respectively.~~

forming at least one anchor structure disposed horizontally adjacent to said bonding pad and at least one conductive layer underlying said bonding pad, said at least one

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anchor structure formed interconnected to the bonding pad and to the at least one underlying conductive layer;

wherein said at least one anchor structure is formed horizontally interconnected by a respective conductor bridge extending between said anchor structure and said bonding pad and between said anchor structure said at least one conductor layer;
and,

wherein said anchor structure and said respective conductor bridges are horizontally adjacently surrounded by a dielectric layer including at an uppermost level.

19. (original) The method of claim 18 wherein said at least one anchor structure comprises a plurality of anchor structures.

20. cancelled

21. (new) The structure of claim 1, wherein the anchor structure has about the same dimensions with respect to an uppermost layer and underlying layers.

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22. (new) The structure of claim 13 wherein the anchor structure has about the same dimensions at a respective level.

23. (new) The method of claim 18 wherein the anchor structure is formed with about the same dimensions with respect to an uppermost layer and underlying layers.

24. (new) The structure of claim 1, wherein the bonding pad has truncated corners as viewed from the top.

25. (new) The structure of claim 13, wherein the bonding pad has truncated corners as viewed from the top.

26. (new) The method of claim 18, wherein the bonding pad is formed with truncated corners as viewed from the top.

27. (new) The structure of claim 1, wherein the bonding pad has a rounded corners as viewed from the top.

28. (new) The structure of claim 13, wherein the bonding pad has a rounded corners as viewed from the top.

29. (new) The method of claim 18, wherein the bonding pad is

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formed with rounded corners as viewed from the top.